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Global Surgery Symposium

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ABSTRACT

This article describes the Global Surgery Symposium held within the 65th British Association of Paediatric Surgeons (BAPS) Annual Congress in 2018. Global surgery is a rapidly expanding and developing field and is of particular importance in paediatrics since children account for up to 50% of the population in low- and middle-income countries (LMICs). It is estimated that up to a third of childhood deaths in LMICs are the result of a surgical condition, and congenital anomalies have risen to become the 5th leading cause of death in children under 5-years of age globally. Trainees in high-income countries (HICs) are increasingly interested in global surgery engagement through clinical placements, research, or education, or a combination of these. There is considerable controversy regarding the ethics, practicalities, usefulness, safety, and sustainability of these initiatives. In addition, there is debate as to whether such placements should occur within the paediatric surgery training pathway.

Keywords: Global surgery; Research collaboration; Training; Low- and middle-income countries

Level of Evidence: 5 (Expert Opinion)

Global surgery (GS) has been defined as an area for study, research, practice, and advocacy that aims to achieve health equity for all people worldwide who require surgical care [1]. BAPS was established as a national organisation with aspirations to influence the international practice of paediatric surgery and was an early proponent of GS. Hence, the International Affairs Committee (IAC) Global Surgery Symposium has become a fixture of the annual congress over the past one and a half decades. The Symposium allows for sponsored trainees from LMICs and the UK to express their training experience as well as invited speakers to share their experience on global surgery.

The 2018 session began with invited presentations from BAPS IAC Fellows, Scholars and the Trainee Representative. To put this into context, *Hugh Greenwood* Fellows are early career consultant paediatric surgeons or paediatric surgery trainees from LMICs who are funded to undertake a short term (3-month) clinical placement in the UK, *Lister and Hugh Greenwood* Scholars are paediatric surgeons or trainees from LMICs who are funded to attend the annual BAPS congress and *Hugh Greenwood* Travel Fellows are UK trainees who are funded to undertake a clinical placement in a LMIC. In contrast to previous years, the 30-minute Hugh Greenwood International Lecture was replaced with a very engaging 1-hour debate on the pros and cons of HIC trainees undertaking clinical placements in LMICs. Perspectives were sought from UK trainees involved in Global Surgery, the UK Paediatric Surgery Specialist Advisory Committee (SAC), trainers within host institutions in LMICs and trainers from HICs. All speakers and BAPS IAC members are shown in Fig.1.

Hugh Greenwood Fellows/ Scholars and Lister Scholars

This section of the symposium provided an insight into the challenges for paediatric surgeons in four very different regions of the world (Fig.2). **Mozammel Hoque** (Chittagong, Bangladesh) highlighted neonatal surgical care as a particular problem, especially in infants with gastroschisis and bladder exstrophy. Despite advanced skills and techniques including laparoscopic assisted pull-throughs and laparoscopic and thoracoscopic congenital diaphragmatic hernia repair, there is a lack of adequate ward facilities and infrastructure that prohibits optimal standards of care and hence diminishes outcomes. **Olivier Moulet** (Abidjan, Cote d'Ivoire) reported infants with gastro-intestinal perforations as one of their greatest challenges with a mortality rate of 65% in a recent 10-year retrospective review. Their patients presented late (average 3 days) with sepsis and advanced pathology with septicaemia being reported as the leading cause of death. The main institutional problems are a lack of neonatologists and neonatal intensive care facilities. Neonatal resuscitation and venous access are poor and parenteral nutrition is not available. He noted that infants with gastroschisis are '100% programmed for death' with no survivors at their institution. This is

consistent with results from the PaedSurg Africa study, which reported >75% mortality from gastroschisis across sub-Saharan Africa [2].

Conversely, **Emiliana Lia** (Bandung, Indonesia) showcased their excellent neonatal and paediatric intensive care facilities, use of advanced laparoscopic, endoscopic and cystoscopic techniques and sub-specialisation with different multi-disciplinary teams focused on conjoined twins, oncology, trauma and disorders of sexual development. Their problems include workforce distribution and logistics. Indonesia consists of 13,466 islands (600 inhabited) with hundreds of distinct ethnic and linguistic groups. There are only 130 paediatric surgeons for the 261 million population (of which 84 are based in the main island of Java) and hence there is a workforce mismatch exacerbated by a large rural-urban divide. Dr Lia's hospital in West Java receives about 5,000 neonatal and paediatric surgical patients (<12 years) per year (110 patients with anorectal malformation, 104 with Hirschsprung's disease, 40 with duodenal atresia/ stenosis in 2017). Inability to manage this volume results in long waiting times for surgery. Development of a national registry for congenital anomalies and national care protocols were highlighted as areas for potential improvement in Indonesia. Finally, **Iyad Zarifa** (Aleppo, Syria) highlighted the challenges of training in a conflict setting. Despite this, he showed that service delivery still goes on and emphasised the importance of gaining clinical experience in high-income countries.

Hugh Greenwood Travel Fellow

Sonia Basson (Paediatric Surgery Trainee, London), received a Travel Fellowship to support her 12-month Out-of-Programme Experience (OOPE) at the Chris Hani Baragwanath Hospital in Johannesburg and the Red Cross Hospital in Cape Town. There were multiple motivating factors for this career choice: a feeling of being under-experienced and under-challenged despite recently passing the FRCS (Paed.), ongoing junior doctor strikes in the UK and utilising the 'last opportunity' to have time out of training before applying for a consultant post. Undertaking such a placement was not without hurdles, taking over a year to finalise the documentation required: OOPE forms, local verification of credentials, medical registration and visa. However, the wait and hard work were worth it with multiple rewards: more independent operating and neonatal cases with excellent local supervision, trauma experience and copious clinical experience on the wards and in clinics resulting in a greater sense of self-confidence and ownership of patients in preparation for consultant practice.

Work was not restricted to the 48 hours / week of the European Working Time Directive as happens in the UK and involved daily early wards rounds, long busy days and fewer days off. Maintaining a

healthy work-life balance with the aid of yoga, friends and trips home was important. Other tips provided were to identify your personal aims before going, save in advance (there is no salary for staff from outside of South Africa) and to remain humble with an open mind. Her experience was that the local teams were highly trained and experienced and had learned to work in a challenging environment with limited resources and infrastructure. These points need to be learned quickly by HIC trainees.

BAPS IAC Trainee Representative

Naomi Wright (Paediatric Surgery Trainee, London) has also undertaken clinical placements in LMICs, but her focus on global surgery has been more towards research. She is a seasoned person with Global Health having accomplished a BSc and an MSc in this field previously and is currently undertaking a PhD concentrating on improving survival amongst neonates with congenital anomalies in low-resource settings. In this session, her presentation described the establishment of a 'Global PaedSurg Research Collaboration' with the first international, multi-centre, prospective cohort study focused on the outcomes of neonates with congenital anomalies globally [3]. There are over 650 children's surgical care providers from 102 countries signed up to participate in the study, which is due to run from October 2018 – April 2019.

Such data is vital to define and highlight the huge disparities in outcomes globally and to identify factors that can be modified to improve care. Currently it is estimated that 97% of the half a million annual deaths from congenital anomalies are in LMICs, where very little data exists on these conditions [4]. The study also aims to create a platform for ongoing collaborative research and interventional studies. An example of this in practice is the multi-centre gastroschisis interventional study across sub-Saharan Africa that has been funded by the Wellcome Trust following the results of the PaedSurg Africa study in 2016/17 [2].

Hugh Greenwood Debate: Should pediatric surgery trainees from high-income countries undergo clinical placements in low- and middle-income countries?

Trainee perspective

Catherine Bradshaw (Post-FRCS Paediatric Surgery Trainee, London) eloquently argued the importance of enabling, encouraging and supporting paediatric surgical trainees to undertake global

surgery placements. Her experience was of a 1-year OOPE in South Africa and 1-month placement in Egypt. She is planning a further 6-month OOPE in Lilongwe, Malawi later this year. She highlighted personal benefits including improved surgical experience, enhanced resourcefulness and problem-solving skills and a greater insight into varying practices and cultures. Global benefits were also noted including the establishment of global networks and inspiring future generations to work together towards improved surgical care for children worldwide. She is not alone in her passion for global surgery. In a survey of 724 surgical residents in the US, 92% stated a desire to undertake an international surgery elective [5]. Similarly, in a Canadian survey, 89% of surgical residents stated an interest in incorporating international surgery into their future career goals [6].

However, she acknowledged the importance of choosing placements carefully and ensuring adequate local supervision. She stressed that trainees should work within their own capabilities and not undertake clinical activities on patients that they wouldn't undertake if in a HIC. She recommended trainees thinking of pursuing a global surgery placement to read the '*Global surgery guidelines for surgical volunteerism: how to ensure your surgical placement overseas provides maximum benefit to you and your hosts*' [7]. The Association of Surgeons in Training (ASiT) in the UK and Northern Ireland also stressed that visiting trainees must consider the requirements of host centres, rather than just their own objectives [8].

Regulation

Liam McCarthy (SAC Chair in Paediatric Surgery in the UK) started by sharing his personal experiences of global surgery and expressing his support of global surgery placements within surgical training. He works with an organisation called 'Interplast Holland' and volunteers in Zanzibar (approximately 50 cases/ year and training) focused on genital reconstruction, which is a particular need in that region. He also shared the positive experience of a UK paediatric surgery trainee who volunteers for 'MercyShips' for 2-week intervals using study leave, which is permitted within the UK training system [9].

Longer trips overseas require approval in the UK either as an OOPE, which is not counted towards training, or an Out-of-Programme for Training (OOPT), which is counted towards Completion of Clinical Training (CCT). The latter however is only permitted within SAC approved training centres, which typically only include centres in HICs. The Joint Committee on Surgical Training (JCST), which incorporates all 10 SACs, state the following, '*JCST encourages trainees to undertake time out in developing countries but would normally view this as experience not training. Time spent in a*

developing country will therefore normally be treated as Out of Programme Experience (OOPE), which would not count as part of the CCT. The SACs will, however, consider a maximum of three months to count towards training if a satisfactory application for SAC support is submitted. They may also consider longer periods on a case by case basis'. Regarding timing of placements overseas, the only regulation in the 'Gold Guide' is that an Out-of-Programme for Research (OOPR) cannot be undertaken in the final year of training. There are no formal regulations regarding timing of OOPEs or OOPTs [10].

Similarly, the Residency Review Committee in the US and Canada have allowed case credit for pre-approved international electives, but in line with the UK site accreditation is challenging and few are approved, particularly in LMICs [11]. However, some individual residencies do provide global surgery training such as Mount Sinai Hospital in New York, which runs a 2-year program with fieldwork either in a LMIC or inner city school district in New York or Indian Health Service in North Dakota [12]. There are a number of academic global surgery opportunities in the US such as the Paul Farmer Global Surgery Fellowship and the Yale/ Stanford Johnson and Johnson Global Health Scholars Program [13,14]. In the UK, the King's Centre for Global Health and Health Partnerships provides a unique MSc on Global Health with a strand focused on Global Surgery [15]. Naomi Wright gained a Royal College of Surgeons of England One-Year Research Fellowship which provided funding support whilst undertaking this MSc and associated research. As of 2018, Oxford University provides a week long credit bearing short course on Global Surgery which can be used for any Masters Programme; this is soon to be advanced into a full Masters Programme [16].

Interestingly, paediatric surgery trainees in the US and Canada are not permitted international electives during their 2-year training period. The latter was contested in a 2017 JPS article stating that a 4-week global paediatric surgery elective should be allowed since other electives in paediatric urology and plastics are permitted, which could have the same or lower impact than a placement overseas [17]. Poenaru et al. highlight their successful Montreal-Kijabe (Kenya) paediatric surgery training exchange fellowship that was initiated in 2010 as an example of the benefits [18].

Trainer view from a LMIC

Bip Nandi, former UK trainee and now a consultant paediatric surgeon in Malawi, highlighted the value of UK trainees visiting LMIC centres from a host perspective. He stressed lack of staff as the greatest challenge in his environment and hence 'extra hands on the ground' are of great help. He noted the importance of avoiding excessive 'off the job' training events, which combined with

critical staff shortages, adversely affect service provision. Suggestions were offered of how to maximise value from a placement as follows: have realistic expectations, talk less/ listen more, make friendships, take more shifts, keep coming back, form institutional links, publicise/ advocate, get involved/ get political. In a Surgery Commentary, Frank Lewis states there must be a degree of commitment and longevity since a one-off venture is unlikely to accomplish much for a local team in the long run [19]. Krishnaswami et al. also argue that although short-term surgical volunteerism does serve a critical role, this is unlikely to meet the needs in LMICs either in the short or long term. There should be a focus on education, research and advocacy within global surgery in addition to clinical service [11].

Trainer view from a HIC

Ramesh Nataraja set the scene for his argument by giving an example of the partnership between his centre, the Monash Children's Hospital in Australia, and centres in Myanmar [20]. He feels strongly that HIC providers have a responsibility to focus on sustainable educational initiatives rather than the provision of service delivery alone. In Myanmar, all their programmes focus on surgical education and upskilling of local surgeons with techniques such as simulation-based medical education (SBME); they do not operate in-country. Since the local surgeons are often well-trained, but under-resourced, providing training on novel techniques and care pathways using SBME has been shown to improve clinical care. For example, through clinical audit they showed a significant reduction in children with intussusception receiving a primary laparotomy following simulation-based training on air enema reduction. Such improvements in service delivery are likely to be more sustainable than transient improvements seen whilst HIC teams fly in to operate during surgical missions. Trainees have been involved in the partnership and can contribute effectively to such educational activities whilst gaining valuable experience themselves, hence improving their own future practices. Peer-to-peer learning between trainees at Monash Children's Hospital and trainees in Myanmar has proved a useful educational exchange whilst developing strong partnerships for the future.

General Discussion

A panel discussion was opened up with the floor fuelling a robust and insightful debate. It was argued that although independent operating may be good for a trainee's confidence, structured feedback from an observing consultant is very important to enhance skills. Hence, appropriate placement choice is vital. There was criticism of some of the terminology used during the previous talks including 'selfless', 'mission' and 'MercyShips' which can be patronising and offensive to

surgeons in LMICs. It was highlighted that surgeons from LMICs are often looked down upon and deemed inferior when in fact, as alluded to by a number of speakers, surgeons in LMICs are often very highly trained and in fact are more competent than surgeons from HICs to deal with the range and type of pathology in their environment, particularly within the setting of limited resources. Indeed harm can be done by surgeons from HICs who have an inadequate skill-set to work in such an environment [11].

Finally, the discussion turned to the future of Global Paediatric Surgery as a career and how this can be facilitated in the UK. Is it feasible as part of the training scheme or should it be a post-CCT fellowship? Can it be funded by Health Education England/ the NHS? The IAC have initiated talks with educational institutions in HICs and LMICs accordingly. Experiences must be shared amongst HIC centres and countries who have set up such schemes and input sought from LMIC partners.

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Figure Legends

Fig.1. BAPS IAC Members and Presenters: Ashish Minocha, Simon Kenny, Emiliana Lia, Mozammel Hoque, David Lloyd, David Drake, Liam McCarthy, Ramesh Nataraja, Naomi Wright, Richard Stewart, Olivier Moulet, Iyad Zarifa, George Youngson, Niyi Ade-Ajayi, Sonia Basson, Kokila Lakhoo, Bip Nandi, Catherine Bradshaw (from left to right)

Fig.2. Country locations of the four BAPS IAC Fellows and Scholars


Welcome to the Joint
BAPS BAPES International
Congress 2018
ACC, Liverpool
BAPES

Figure 1

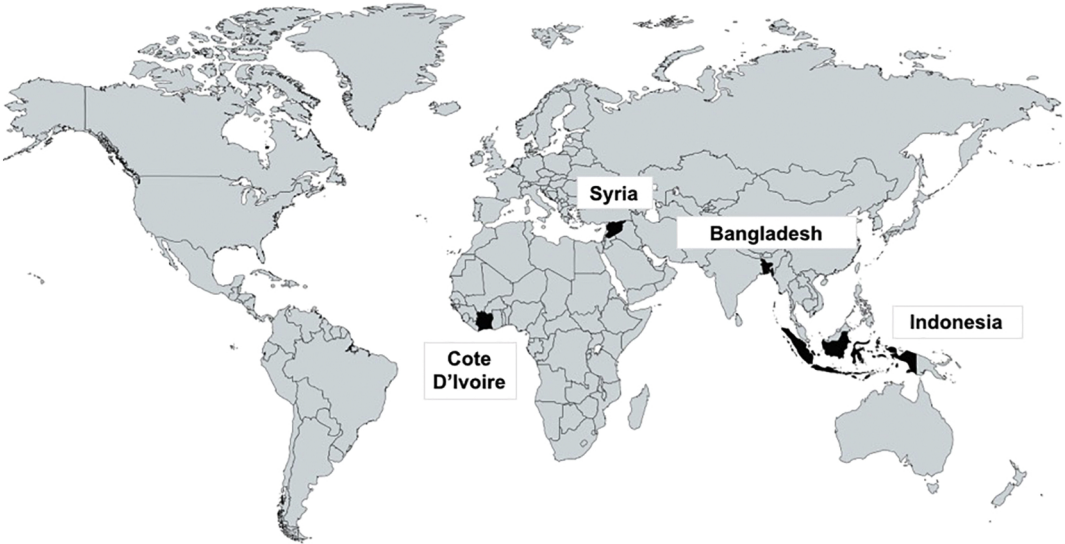

Figure 2